

REMARKS

Claims 32-37, 40-52 and 55-66 are now pending in the application. Claims 1-6, 9-21, and 24-31 have been cancelled. Further, Claim 47 has been amended to clarify the claimed invention and no new matter has been added. Applicant submits that the claim amendments are consonant with the amendments and arguments previously presented in the prosecution of the present application, hence the amendments to the claims do not add new matter or require further consideration. Further, Applicant believes that these amendments will place the application in condition for allowance and/or in better form for appeal.

On February 10, 2006, Applicant's representative had the opportunity to conduct a brief telephonic interview with the Examiner regarding the presently pending claims in the application. Applicant thanks the Examiner for the courtesies extended during this interview. During the telephone conference, Applicant's representative and the Examiner discussed the deficiencies of the cited art. The Examiner indicated a willingness to consider the claim amendments and the arguments, as contained herein.

In light of these discussions, Applicant is hereby canceling Claims 1-6, 9-21 and 24-31 directed to apparatuses, without prejudice. Applicant is canceling these claims to simplify and further prosecution, however, the cancellation of these claims does not in any way constitute a statement as to the patentability of the cancelled claims. The remaining pending claims are directed to systems for producing clean industrial parts (Claims 32-37 and 40-46) and methods for making clean metal parts (Claims 47-52 and 55-66). Applicant fully reserves the right to file any continuation or divisional applications pursuing the subject matter of the cancelled claims. The Examiner is

respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-6, 9-14, 17-21 and 24-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoffman Jr. et al. (U.S. Pat. No. 6,264,823, hereinafter "Hoffman") in view of Madono (U.S. Pat. No. 4,584,328, hereinafter "Madono"). This rejection is respectfully traversed.

Claims 15-16 and 30-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoffman in view of Madono and further in view of Johnson et al. (U.S. Pat. No. 5,126,089, hereinafter "Johnson"). This rejection is respectfully traversed.

Claims 32-37, 40-52, and 55-66 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnson in view of Madono and further in view of Hoffman. This rejection is respectfully traversed.

As discussed above, Claims 1-6, 9-21, and 24-31 have been cancelled. Claims 32-37 and 40-46 recite casting materials that comprises a disintegration additive consisting essentially of an ionic compound that promotes disintegration of the casting material when in the presence of an electrolyte, wherein a portion of the casting material remains on the part after casting. (*Emphasis added*). Claims 47 – 66 recite methods of making clean metal parts. Independent Claims 32 and 47 recite common features, including a cast part having residual casting material that comprises an ionic compound that promotes disintegration of the casting material when in the presence of an

electrolyte. The claims recite a parts washer operable to contact the cast part with an electrolyte. The system further comprises a power source that contacts the electrolyte.

Applicant respectfully maintains that a *prima facie* case of obviousness has not been established for any of the rejected claims as required, because

(a) each and every element of the claimed invention is not cited in the cited prior art;

(b) the references lack any suggestion and/or motivation to arrive at the presently claimed invention; and

(c) that one of skill in the art would have no reasonable expectation of success regarding the required modifications. (See *e.g.*, *In re Vaeck*, 20 USPQ.2d 1438 (Fed. Cir. 1991)). None of the cited references has any disclosure, suggestion, and/or motivation to arrive at each and every limitation of the claimed invention, as recited in Claims 32 or 47, or their dependent Claims 33-37, 40-46, 48-52, and 55-66.

The Hoffman reference does not disclose removing residual casting materials from cast parts. Nowhere in the Hoffman reference is it suggested that electrolytic cleaners could be used to remove residual casting material from a cast part. There is a vast physical distinction between a thin film coating suggested as being suitable for removal by Hoffman, and a ceramic-like casting material. A residual casting material has interfaced with and fused to a molten metal during processing, hence it remains attached to the metal after casting. Hoffman does not suggest that such a cleaner would be robust enough to remove residual casting material. Rather, Hoffman only discloses removing rust, scale, smut, petroleum derived contaminants, oils, greases, flux, carbonization, paint, dirt, and the like. Col. 1, lines 29-34, for example. In fact, to

those of ordinary skill in the art, the electrolytic parts cleaner of Hoffman would likely appear to be ineffective at removing traditional casting materials, because it is only capable of removing thin lightly-adhered and/or accumulated films.

In the claimed invention, a residual casting material can effectively be removed from a cast part by an electrolytic apparatus when a disintegration additive is included in a residual casting material. Hoffman has no disclosure, suggestion, or motivation to remove casting materials at all, nonetheless to include a disintegration additive that promotes disintegration of the casting material in the presence of an electrolyte to enable effective removal via electrolytic processing. In this regard, Hoffman fails to disclose each and every element of the claimed invention; fails to provide any suggestion or motivation to arrive at the claimed invention; and lastly, lacks any reasonable expectation of success of removing a residual casting material from a cast metal part by using an apparatus like those disclosed in Hoffman.

None of the other cited references accounts for these deficiencies. Madono has no disclosure or suggestion of any electrolytic processing apparatus whatsoever. Further, Madono has no disclosure or suggestion of using a disintegration additive that promotes disintegration of the casting material in the presence of an electrolyte to remove residual casting materials from metal parts.

The Johnson reference likewise has no disclosure or suggestion of removing residual casting material from a cast part via an electrolytic apparatus. The Johnson reference discloses exposing a core to steam and then using mechanical agitation (shake-out) and/or high pressure jets of water to remove core materials. Col. 4 lines 53-56. Johnson contains no disclosure of an electrolytic processing apparatus that

employs an electrolyte. Further, Johnson lacks any disclosure of including any additives for casting materials. The Johnson reference either in combination with Hoffman and/or Madono does not disclose or suggest the claimed invention.

Applicant respectfully submits that none of the Hoffman, Madono, or Johnson references, either alone or in combination with one another, provides the necessary disclosure, suggestion, or motivation to render the invention as claimed in Claims 32 or 47, or their dependent Claims 33-37, 40-46, 48-52, and 55-66 as obvious. Applicant respectfully requests reconsideration of the claims and prompt allowance thereof.

CONCLUSION

Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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